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**OBSERVATIONS ON THE HABITS OF THE NEUTERS OF FORMICA SANGUINEA.**

BY THOMAS G. GENTRY.

A few days ago, while engaged in the collection of Coleoptera underneath stones and decayed logs, my attention was attracted by a nest of *Formica sanguinea*. Scattered over the ground to receive the warmth of the sun, were numberless larvæ of the ant, in diverse stages of development. Some had apparently just escaped from the ova, while others were nearly ready to pass into the condition of pupæ.

Two external apertures of the nest were all that could be discerned leading to chambers below. Many neuters—working ants—were observed performing the duties of nurses to the offspring. On close examination they appeared to be divided into two classes: one having the exclusive charge of the almost mature larvæ; the other, the care of the more feeble.

As is customary with ants in an invasion of their territories, the larvæ were removed to places of security. The larger grubs were conveyed to a separate apartment by workers whose special duty it seemed to be; while the less vigorous were taken possession of by another set, and hidden away in another chamber of the habitation. After the last individual of the former had been cared for, I expected to see the first set come out and assist in the removal of their more tender offspring, that were still lying profusely about. But I was disappointed. With a view to test my observations, I dropped several of these last into the mouth of the first passage-way, thinking that possibly the sight of these would stimulate them to further exertions. But all my attempts to draw them out were in vain. These larvæ remained where I had placed them, until their own properly constituted nurses observed them, when they were immediately seized and carried to appropriate quarters.

After the tumult had subsided, I opened the horizontal channel that led to the first chamber. It was about two inches in length and half an inch beneath the surface. Here, packed away in a commodious chamber, were a score or more of ants, each with the object of its solicitude by its side.

Alarmed still more by this second intrusion, each seized a larva, studiously avoiding the entrance to the main chamber, and hurried it away to places of security among the adjoining leaves and grasses. I am confident that the main nest was shunned, as the parties passed within an eighth of an inch of it, and could readily have entered, had there been any such intention.

The conclusions I have to draw from these facts are the following: 1st. The colony is divided into two sets of neuters, one whose care it is to provide for the wants and security of the abler and more mature, the other to look after the more helpless. 2d. That the more vigorous are necessarily confined to superficial cavities, since they need less care and attention, and in order to avoid the time and trouble of constant removals in consequence of the varied conditions of weather and surrounding circumstances to which they are subjected, said removals seeming to be impracticable in view of the weight and size of the fully-grown larvæ. 3d. That the young and tender are conveyed to deeper-seated chambers, less likely to be assailed by an enemy, thus affording a better means of continuing the species.